BANKING AND FINANCIAL FRAGILITY

Case Study: Local Government Investment Pools

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LGIPs

- Many states and counties in the U.S. operate a Local Government Investment Pool (LGIP)
  - participants are local governments, school districts and other public entities
- Timing of tax revenues differs from timing of expenditures
  - place their excess cash in pool, which is invested in securities
- Benefit: economies of scale
  - access to better investments, shared management costs, etc.
  - aim to earn a higher return while maintaining safety, liquidity
- Some of these pools are quite large
  - total assets of over $250 billion in 2007

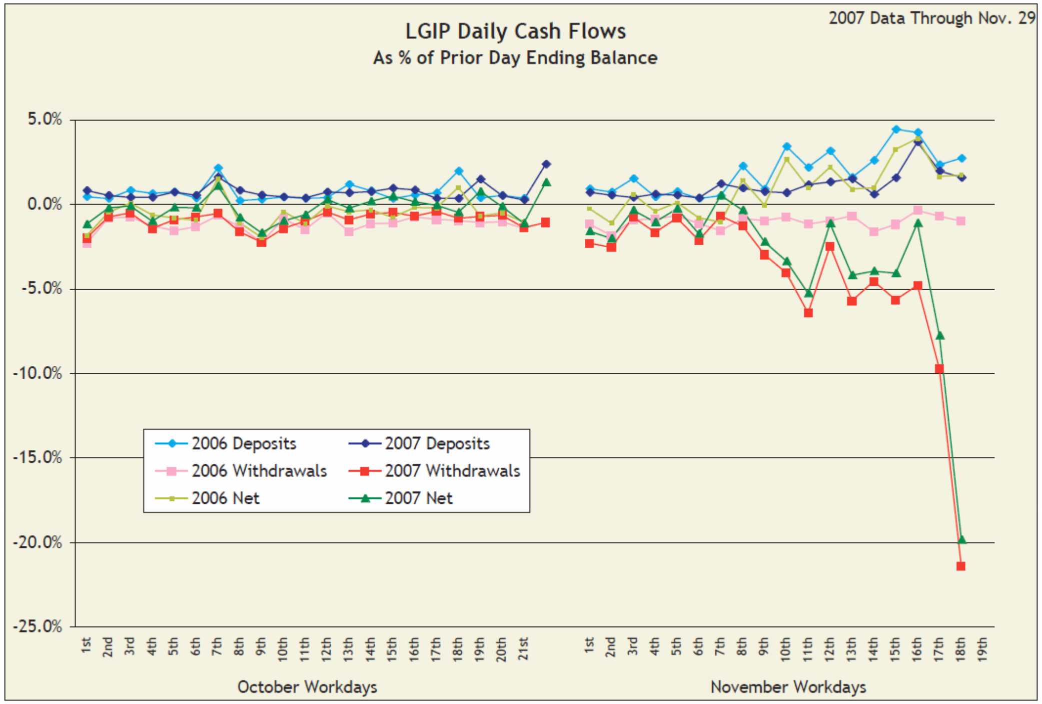
- LGIPs operate very much like a Diamond-Dybvig bank
  - mutual arrangement among participants
  - participants buy *shares* in the fund (~ deposit endowment)
  - price of a share is typically fixed at \$1.00 ($\sim c_1^*$)
  - can be redeemed on demand ($\sim t = 1$)
  - unredeemed shares pay dividends (or interest, $\sim c_2^*$ at $t = 2$)
- The pool invests in a portfolio of assets
  - bank deposits, certificates of deposit, government bonds
  - commercial paper issued by banks, non-financial firms and other entities
  - some assets are more liquid than others ($\sim x$ and $1 - x$)

- LGIPs have operated successfully for many years
- There have been occasional problems
  - Orange County, CA filed for bankruptcy in 1994 after its LGIP suffered large losses on interest rate derivatives
- But these events were rare
  - and had led to increased restrictions on pools' investment options
- In 2007, the Florida LGIP was the largest in the country
  - about 1,000 participants, $27 billion in assets
  - by some reports, it had the highest return of any public fund in the U.S.

Trouble in Paradise

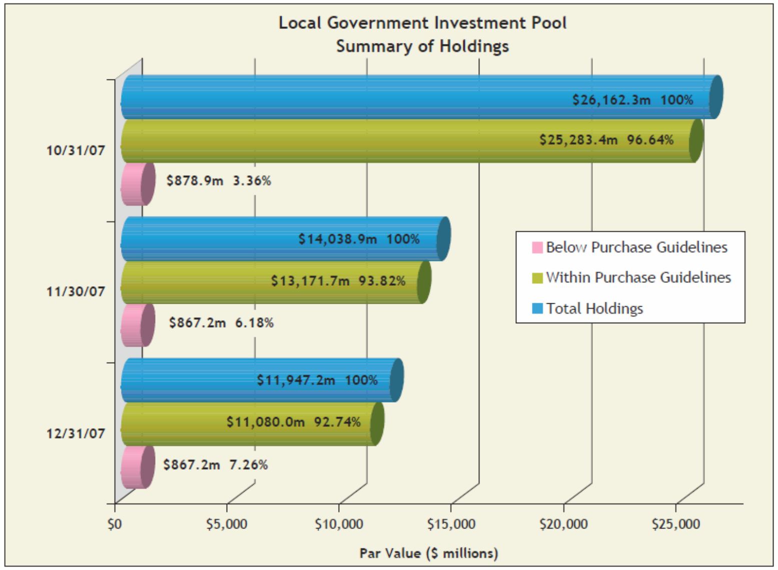
- In November 2007, news surfaced that the Florida LGIP had invested in assets related to subprime mortgages

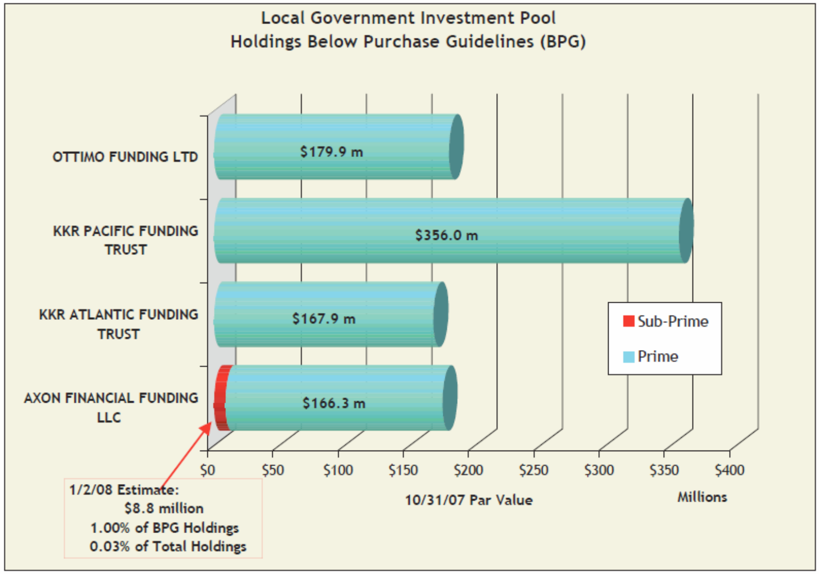
- Some participants began withdrawing their funds
  - quickly turned into a full-fledged bank run



>30% of pool withdrawn on Nov. 28-29

- The pool's potential losses were small





- One participant who withdrew commented:

  "Truthfully, it was a relatively small percentage of the portfolio. But it scared a lot of people, because local governments would never invest in that." (New York Times, Nov. 30, 2007)

- But once the run started …
  - pool's (large) holdings of liquid assets were quickly exhausted
  - remaining assets were (mostly) high-quality, but illiquid (i.e., costly to sell at short notice, $\sim r < 1$)
  - pool could not continue to meet withdrawal demand ($\sim$Assumption $A1$: $c_1^* > 1 - (1 - r)x^*$)

$\Rightarrow$ Participants' decision to withdraw was completely rational

  - once the run began, did not matter if losses were large or small
  - strong incentive to get your money out first
  - expectations that the fund may fail became self-fulfilling (exactly as in the model)

The policy reaction

- In our model, the bank continues paying c_1^* until all assets have been liquidated
  - policy reactions to a run in reality are more complex
- Nov. 29: the State froze all remaining funds in the pool
- Reopened a week later with pool divided into two funds
  - Fund A (86%): withdrawals allowed but with 2% penalty above a pre-set limit
  - Fund B (14%): no withdrawals allowed
    - money would be repaid as assets matured
- Action caused significant hardship for some participants
  - had to meet payroll expenses, provide social services (~being impatient in the model)

Epilogue

- Withdrawal restrictions on Fund A were eventually lifted
  - now operates as Florida Prime with 774 participants and $10.5 billion in assets
- Fund B paid back 100% of principal by 2014
  - plus a small amount of interest; closed in 2015
    - participants losses: access to funds (and interest) for 2007-14
- LGIPs are a clear example "Diamond-Dybvig" banking
  - show the benefit of pooling funds and having the "bank" do maturity transformation
  - as well as how a loss of confidence leads to a run, with substantial costs for participants

References

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